



1000W Intelligent Single Output Battery Charger

PB-1000 series



■ Features :

- Controlled by microprocessor
- 2/8 stage charging selectable on output panel
- Universal AC input / Full range
- Built-in active PFC function PF>0.95
- Protection: Reverse Polarity / Short circuit / Over voltage / Over temperature
- Charger for lead-acid batteries
- 3 color LED loading indicator
- Built-in remote ON-OFF control
- 2-Bank charger
- Temperature compensation function
- FAN on/off control (depends on charging current)
- 3 years warranty



SPECIFICATION

| MODEL | PB-1000-12 | PB-1000-24 | PB-1000-48 | |
|-----------------------|---|--|-------------|--------------|
| OUTPUT | BOOST CHARGE VOLTAGE | 14.4V | 28.8V | 57.6V |
| | FLOAT CHARGE VOLTAGE | 13.8V | 27.6V | 55.2V |
| | OUTPUT CURRENT | 60A | 34.7A | 17.4A |
| | RECOMMENDED BATTERY CAPACITY(AMP HOURS)(Note 3) | 200 ~ 600Ah | 120 ~ 350Ah | 60 ~ 175Ah |
| | BATTERY TYPE | Open & Sealed Lead Acid | | |
| | LEAKAGE CURRENT FROM BATTERY (Typ.) | <1mA | | |
| INPUT | VOLTAGE RANGE | 90 ~ 264VAC 127 ~ 370VDC | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | |
| | EFFICIENCY (Typ.) | 85% | 88% | 89% |
| | POWER FACTOR (Typ.) | 0.95/230VAC 0.98/115VAC at full load | | |
| | AC CURRENT (Typ.) | 12A/115VAC | 5.2A/230VAC | |
| | INRUSH CURRENT (Typ.) | 25A/115VAC | 50A/230VAC | |
| | LEAKAGE CURRENT | <3.5mA / 240VAC | | |
| PROTECTION | OVER VOLTAGE | 16 ~ 18V | 32 ~ 35V | 64.5 ~ 69.5V |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | |
| | OVER TEMPERATURE | 80°C ±5°C (12V), 85°C ±5°C (24V,48V) (TSW1: detect on heatsink of power transistor) | | |
| | | 85°C ±5°C (12V), 75°C ±5°C (24V,48V) (TSW2 : detect on heatsink of o/p diode) | | |
| | | Protection type : Shut down o/p voltage, recovers automatically after temperature goes down | | |
| | SHORT CIRCUIT | YES, protected by internal circuit | | |
| | REVERSE POLARITY | YES, protected by internal circuit | | |
| FUNCTION | REMOTE CONTROL | Open: Normal work Short: Stop Charging | | |
| | BATTER BANKS | 2 banks (A & B) | | |
| | FAST CHARGE | 2 / 8 stage selectable | | |
| | CHARGER OK | Relay contact rating(max.): 30V/1A resistive ; "Short" when the unit is working properly, "Open" when the unit is failure or the protection function is activating | | |
| | OUTPUT OK | Relay contact rating(max.): 30V/1A resistive ; "Short" when the battery is full, "Open" when the battery is still charging | | |
| | TEMPERATURE COMPENSATION | By NTC, compensate both banks at the same time | | |
| ENVIRONMENT | WORKING TEMP. | -20 ~ +60°C (Refer to output load derating curve) | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | |
| | STORAGE TEMP., HUMIDITY | -40 ~ +85°C, 10 ~ 95% RH | | |
| | TEMP. COEFFICIENT | ±0.05%/°C (0 ~ 50°C) | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | |
| SAFETY & EMC (Note 2) | SAFETY STANDARDS | UL60950-1, TUV EN60950-1 approved | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25°C / 70% RH | | |
| | EMI CONDUCTION & RADIATION | Compliance to EN55022 (CISPR22) | | |
| | HARMONIC CURRENT | Compliance to EN61000-3-2,-3 | | |
| | EMS IMMUNITY | Compliance to EN61000-4-2,3,4,5,6,8,11; ENV50204, EN55024, light industry level, criteria A | | |
| OTHERS | MTBF | 127.4Khrs min. MIL-HDBK-217F (25°C) | | |
| | DIMENSION | 300*184*70mm(L*W*H) | | |
| | PACKING | 3.5Kg; 4pcs/15Kg/1.83CUFT | | |
| NOTE | <p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.</p> <p>3. This is Mean Well's suggested range. Please consult your battery manufacturer for their suggestions about maximum charging current limitation.</p> | | | |

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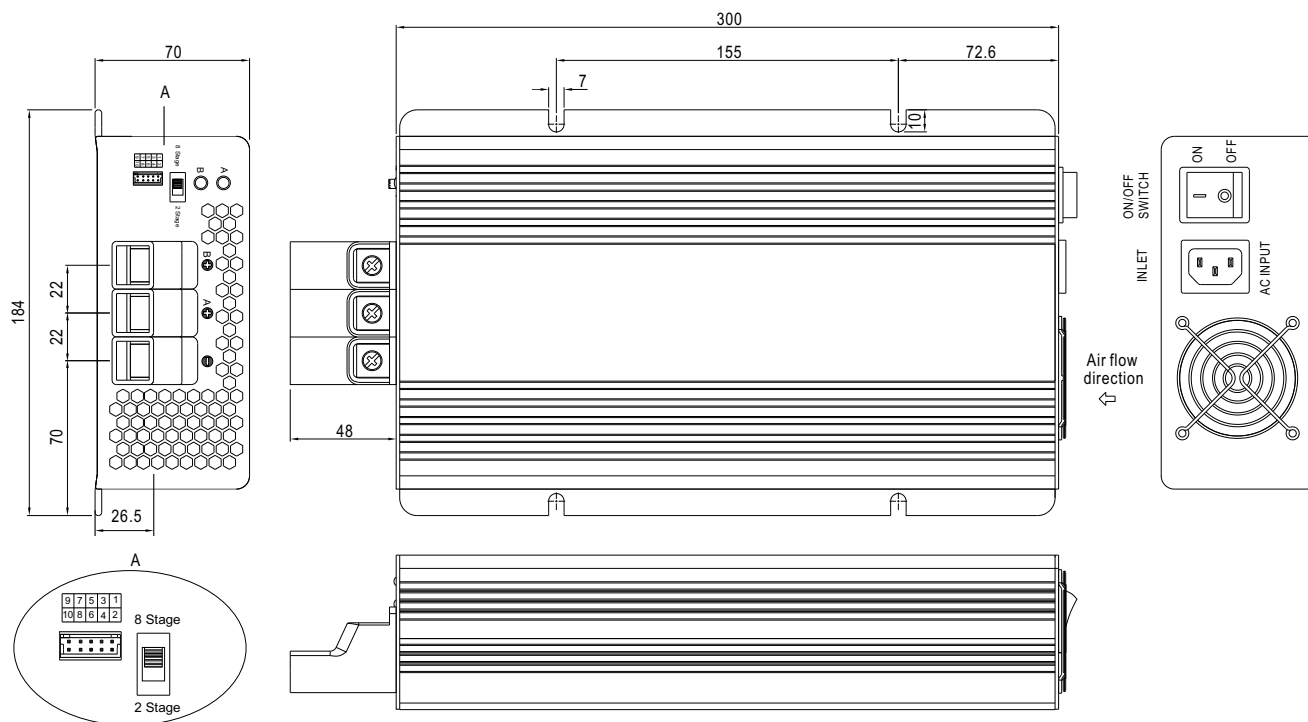


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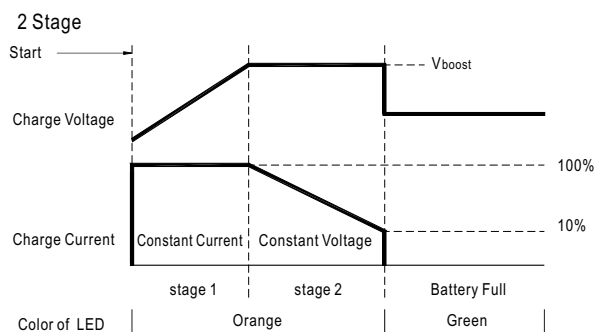
PB-1000 series

Mechanical Specification

Case No. 804B Unit:mm



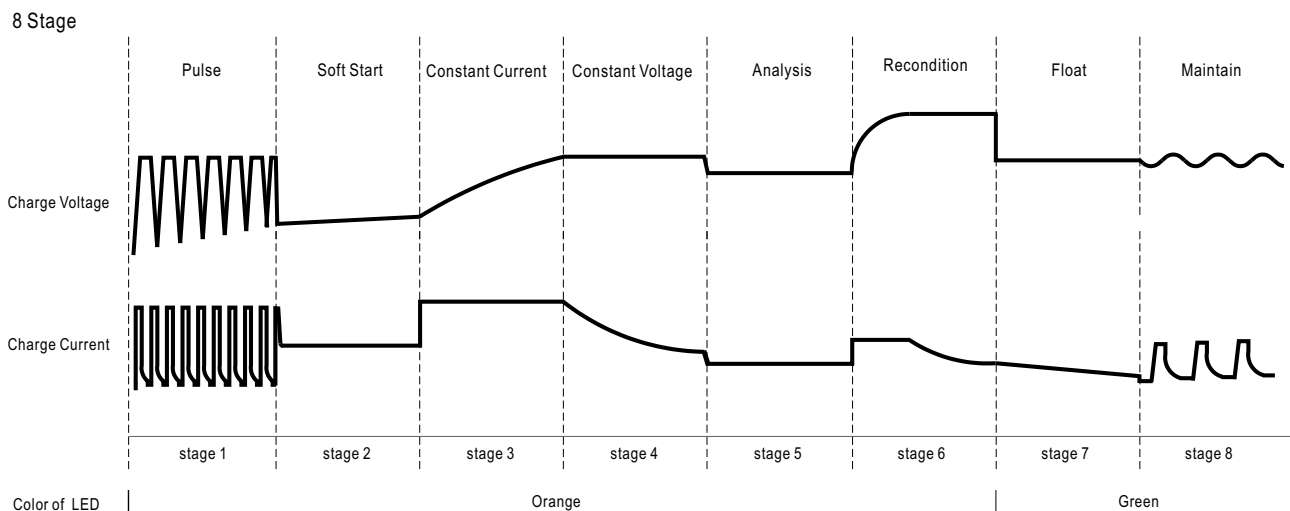
Charging Curve



Control Pin No. Assignment(CN100) : HRS DF11-10DP-2DS or equivalent

| Pin No. | Assignment | Pin No. | Assignment | Mating Housing | Terminal |
|---------|------------|---------|------------|--------------------------------|--------------------------------|
| 1,2 | RY13 | 8 | NTC(5KΩ) | HRS DF11-10DS or equivalent | HRS DF11-10SC or equivalent |
| 3,4 | RY14 | 9 | RC- | | |
| 5,6 | RY15 | 10 | RC+ | | |
| 7 | GND | | | | |
| | | | | | |

RY13 : Bank A OK
 RY14 : Bank B OK
 RY15 : Charger OK
 NTC / GND : Temperature sense
 RC+ / RC-: Remote ON/OFF

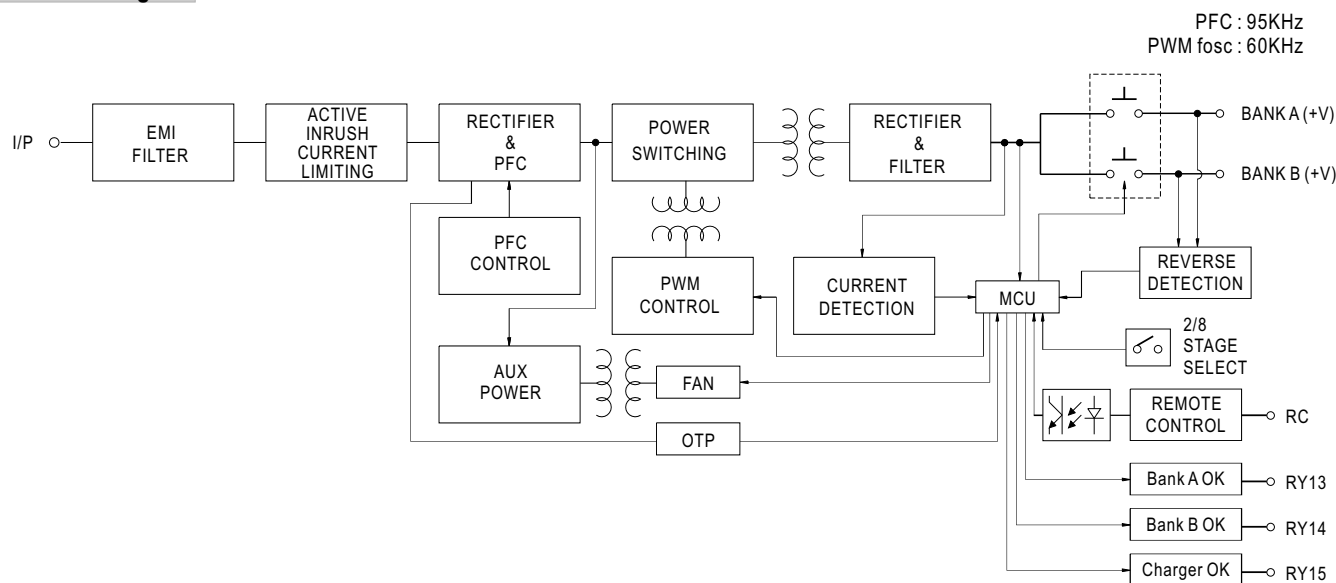




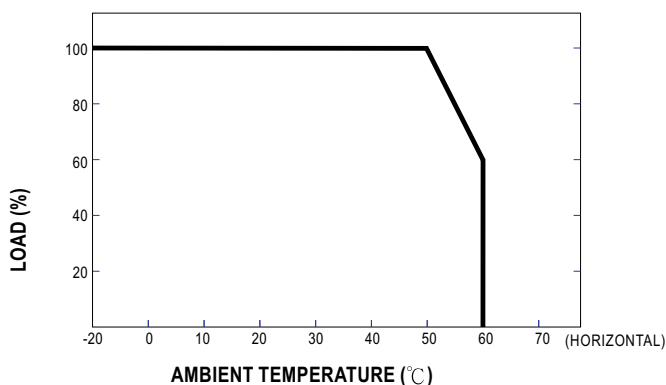
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PB-1000 series

Block Diagram



Derating Curve



The Function of LEDs

| Battery | Color of LED |
|--------------|--------------|
| Fail | Red |
| Charging | Orange |
| Battery Full | Green |

Function Description of CN100

| Pin No. | Function | Description |
|---------|-----------|--|
| 1,2 | RY13 | Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the battery A is full, "Open" when the battery A is still charging. |
| 3,4 | RY14 | Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the battery B is full, "Open" when the battery B is still charging. |
| 5,6 | RY15 | Relay contact rating(max.) : 30V/1A resistive. ; "Short" when the unit is working properly, "Open" when the unit is failure or the protection function is activating. |
| 7,8 | GND / RTH | Temperature sensor comes along with the charger can be connected to the unit to allow temperature compensation of the charging voltage. If the temperature sensor is not used, the charger still works normally. |
| 9,10 | RC- / RC+ | Turn the output on and off by electrical or dry contact between pin 10 (RC+) and pin 9(RC-), "Open" : Normal work , "Short" : Stop charging |



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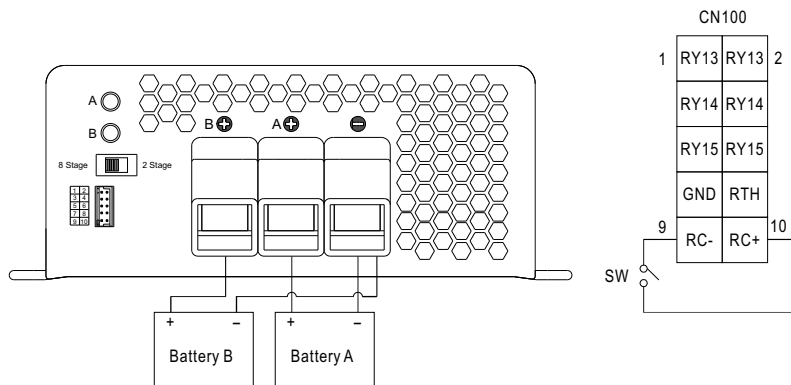
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Function Manual

1. Remote Control

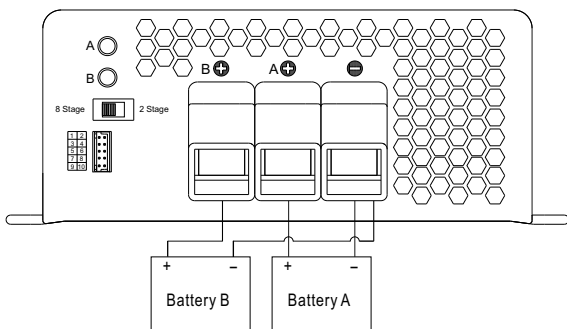
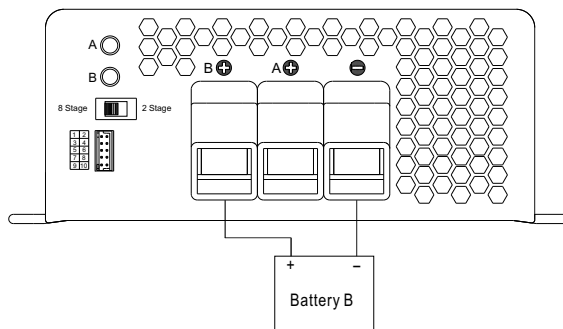
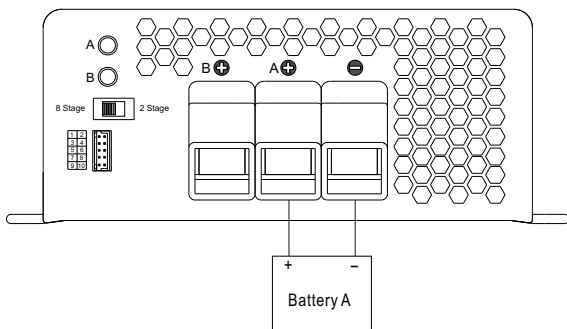
The charger can be turned ON/OFF by using the "Remote Control" function.

| | |
|----------------------------------|---------|
| Between RC+(pin10) and RC-(pin9) | Charger |
| SW Open | ON |
| SW Short | OFF |



2. Two Battery Banks

The charger may be hooked up two battery banks (A and/or B). Connect the battery bank(s) as below. If you are connecting 2 battery banks in the same time, keep in mind that they must share a common ground.





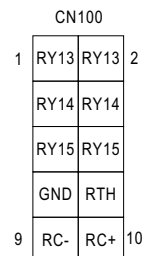
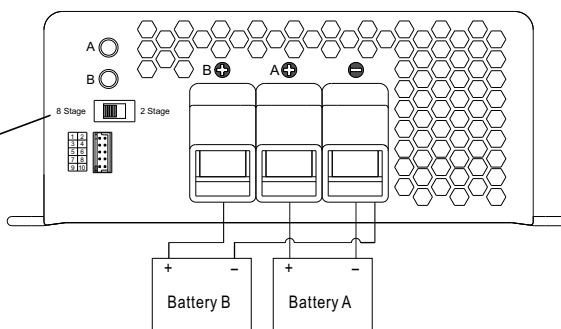
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3. 2 or 8 stage Charging Select

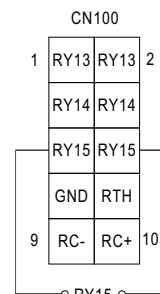
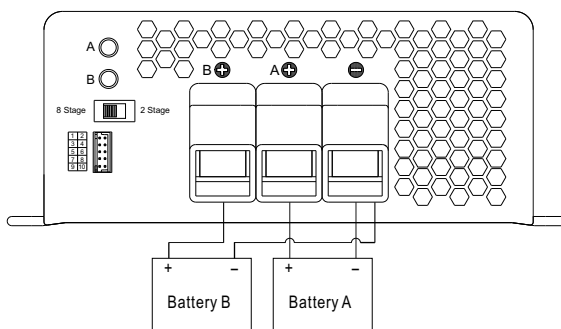
The charger features user selectable 2 or 8 stage charging. The charging profile is selected by moving the slide switch on the back panel.

| Switch | Charging mode |
|------------|------------------|
| Turn right | 2 stage charging |
| Turn left | 8 stage charging |



4. Charger OK Relay(RY15)

| Charger | Between pin5 and pin6(RY15) |
|--|-----------------------------|
| Normal work | ON (Short) |
| Failure or the protection function is activating | OFF (Open) |



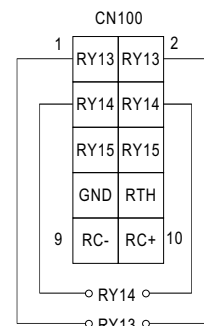
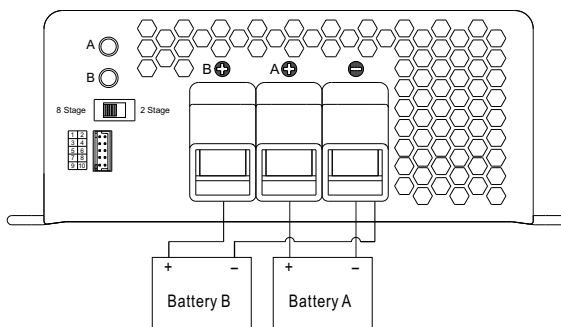
5. Output OK Relay(RY13 & RY14)

1. Bank A OK (RY13)

| Bank A | Between pin1 and pin2(RY13) | Color of LED A |
|----------------|-----------------------------|----------------|
| Battery A Full | ON (Short) | Green |
| Charging | OFF (Open) | Orange |

2. Bank B OK (RY14)

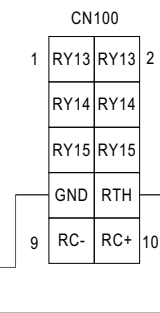
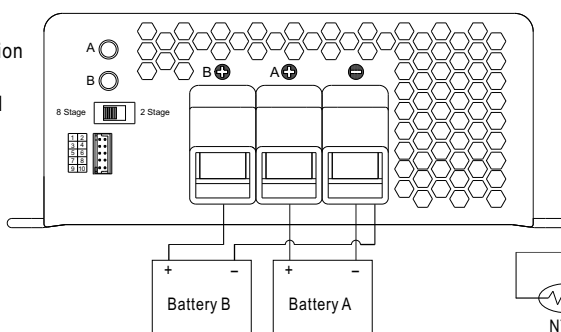
| Bank B | Between pin3 and pin4(RY14) | Color of LED B |
|----------------|-----------------------------|----------------|
| Battery B Full | ON (Short) | Green |
| Charging | OFF (Open) | Orange |



6. Temperature Compensation

Temperature sensor comes along with the charger can be connected to the unit to allow temperature compensation of the charging voltage.

If the temperature sensor is not used, the charger still works normally.



The temperature sensor can either be attached to the battery or placed in its surrounding environment.